

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Previously Presented) A portable analyzer for testing video devices, comprising:

a portable chassis;

a programmable video generator and analyzer housed in said chassis and adapted to be connected to at least one video device being tested, said video generator and analyzer including generating means for generating various forms of video test signals;

a signal conditioner/switching device housed in said chassis and adapted to be connected to the at least one video device being tested, said signal conditioner/switching device being coupled to said video generator and analyzer and including at least one emulator arranged between the at least one video device and said video generator and analyzer to modify signals from the at least one video device and provide the modified signals to said video generator and analyzer;

a command module housed in said chassis; and

a portable computer including a monitor, said computer being arranged to communicate with said video generator and analyzer and said signal conditioner/switching device via said command module in order to conduct test operations and enable display of test results on said monitor.

2. (Previously Presented) The analyzer of claim 1, wherein said computer is programmed to route signals to and from the at least one video device being tested to and from said video generator and analyzer directly or indirectly via said signal conditioner/switching device.

3. (Previously Presented) The analyzer of claim 1, wherein said generating means comprise a primary raster video generator for generating high-resolution bit-mapped images for analog cathode ray tube and digital flat panel displays, a secondary raster video

generator and timer module for generating medium resolution bit-mapped images in multiple synchronized scan formats, and a stroke generator for generating stroke.

4. (Original) The analyzer of claim 3, wherein said primary raster video generator and said secondary raster video generator and timer module each generate a video signal used in combination with one another to enable testing of multi-scan monitors, video switching systems and channel isolation.

5. (Original) The analyzer of claim 3, wherein said primary raster video generator and said secondary raster video generator and timer module each generate a video signal used separately from one another to simultaneously test a plurality of video devices being tested.

6. (Original) The analyzer of claim 3, wherein a timer module portion of said secondary raster video generator and timer module is arranged to measure time intervals or frequency and produce programmable digital patterns.

7. (Original) The analyzer of claim 3, wherein said video generator and analyzer further comprises a respective set of output channels associated with each of said primary raster video generator, said secondary raster video generator and timer module and said stroke generator, said output channels for said primary raster video generator being three low voltage channels (Red, Green, Blue), said output channels for said secondary raster video generator and timer module being three low voltage channels (Red, Green, Blue), and said output channels to said stroke generator being three high voltage channels (X, Y, Z).

8. (Original) The analyzer of claim 7, wherein said video generator and analyzer further comprises a voltage sense module coupled to said computer for aligning said sets of output channels at run time to thereby eliminate long term drift errors.

9. (Original) The analyzer of claim 8, wherein said voltage sense module includes a multi-channel high accuracy differential voltage sense circuit with an integral voltage reference source and senses voltage at all relevant points on said sets of output channels whereby said computer reads the voltage at these points and calculates transfer characteristics of said output channels being aligned.

10. (Original) The analyzer of claim 8, wherein said voltage sense module includes a remote sense capability so that voltages are sensed directly at inputs of the at least one video device being tested to thereby eliminate the effect of cable losses and ground offsets.

11. (Original) The analyzer of claim 1, wherein said video generator and analyzer further includes a video capture module adapted to be coupled to a video source and capable of performing one-shot full frame video image capture on both analog and digital video.

12. (Original) The analyzer of claim 11, wherein said video capture module is coupled to said computer, said computer being programmed with a redisplay tool to enable redisplay of a captured image onto said monitor of said computer.

13. (Previously Presented) The analyzer of claim 11, wherein said generating means comprise a primary raster video generator for generating high-resolution bit-mapped images for analog cathode ray tube and digital flat panel displays, a secondary raster video generator and timer module for generating medium resolution bit-mapped images in multiple synchronized scan formats, and a stroke generator for generating stroke, said video generator and analyzer further comprising a distributed time base module arranged to provide clock generation and distribution.

14. (Original) The analyzer of claim 13, wherein said distributed time base includes four frequency synthesizers, each dedicated to a respective one of said primary raster video generator, said secondary raster video generator and timer module, said stroke video generator and said video capture module to thereby enable independent clock frequencies.

15. (Previously Presented) The analyzer of claim 1, wherein said at least one emulator of said signal conditioner/switching device includes a digital multi-meter emulator, a counter/timer emulator, and a digitizer/oscilloscope emulator, said signal conditioner/switching device further comprising a pulse generator buffer.

16. (Previously Presented) The analyzer of claim 15, wherein said generating means comprise a primary raster video generator for generating high-resolution bit-mapped images for displays analog cathode ray tube and digital flat panel displays, a secondary raster video generator and timer module for generating medium resolution bit-mapped images in multiple synchronized scan formats, and a stroke generator for generating stroke, said video generator and analyzer further comprising a respective set of output channels associated with each of said primary raster video generator, said secondary raster video generator and timer module and said stroke generator and a voltage sense module coupled to said computer for aligning said sets of output channels at run time to thereby eliminate long term drift errors, said digital multi-meter emulator being operative in conjunction with a remote sense port of said voltage sense module and being arranged to provide scaling and signal conditioning.

17. (Original) The analyzer of claim 16, wherein said signal conditioner/switching device further comprises switches associated with said digital multi-meter emulator for connecting remote ports of said voltage sense module either to said digital multi-meter emulator or directly to video inputs of the at least one video device being tested.

18. (Previously Presented) The analyzer of claim 15, wherein said generating means comprise a primary raster video generator for generating high-resolution bit-mapped images for analog cathode ray tube and digital flat panel displays, a secondary raster video generator and timer module for generating medium resolution bit-mapped images in multiple synchronized scan formats, and a stroke generator for generating stroke, a timer module portion of said secondary raster video generator and timer module being arranged to measure time

intervals or frequency and produce programmable digital patterns, wherein said counter/timer emulator being arranged to provide signal conditioning for said timer module.

19. (Original) The analyzer of claim 15, wherein said video generator and analyzer further includes a video capture module adapted to be coupled to a video source and capable of performing one-shot full frame video image capture on both analog and digital video, said digitizer/oscilloscope emulator being coupled to said video capture module and arranged to derive external gate pulses and triggers from an input signal.

20. (Previously Presented) The analyzer of claim 15, wherein said generating means comprise a primary raster video generator for generating high-resolution bit-mapped images for analog cathode ray tube and digital flat panel displays, a secondary raster video generator and timer module for generating medium resolution bit-mapped images in multiple synchronized scan formats, and a stroke generator for generating stroke, said pulse generator buffer being coupled to said secondary raster video generator and timer module and arranged to generate user-specified voltages from transistor-transistor logic level inputs from said secondary raster video generator and timer module.

21. (Previously Presented) A method for testing a video device including a video source and a video display, comprising:

connecting the video source to a portable automatic video test analyzer;

capturing video from the video source by means of a video capture module in a programmable video generator and analyzer in the automatic video test analyzer;

formatting the captured image in the video generator and analyzer and displaying the formatted image on a monitor of a portable computer coupled to the programmable video generator and analyzer to enable analysis of output from the video source;

generating video test signals in the programmable video generator and analyzer;

directing the video test signals to the video display to thereby enable analysis of the displayed test signals; and

coupling a signal conditioner/switching device in the automatic video test analyzer to and between the programmable video generator and analyzer and the video device, the signal conditioner/switching device including at least one emulator arranged between and coupled to the video device and the programmable video generator and analyzer to modify signals from the video device and provide the modified signals to the programmable video generator and analyzer.

22. (Previously Presented) The method of claim 21, wherein the step of displaying the formatted image comprising at least one of determining location of pixels of the formatted image, performing detailed waveform analysis on waveforms in the formatted image and displaying the analysis and measuring sync video patterns for each line, blanking video patterns for each line and active video patterns for each line.

23. (Previously Presented) The method of claim 21, wherein the step of generating video test signals in the programmable video generator and analyzer comprises providing a primary raster video generator for generating high-resolution bit-mapped images for analog cathode ray tube and digital flat panel displays, a secondary raster video generator and timer module for generating medium resolution bit-mapped images in multiple synchronized scan formats, and a stroke generator for generating stroke such that standard, non-standard and intentionally corrupted video is generateable.

24. (Previously Presented) The method of claim 21, wherein the at least one emulator is arranged to convert input signals from the video display being tested which are in a form unprocessable by the programmable video generator and analyzer into a form processable by the programmable video generator and analyzer.

25. (Previously Presented) The method of claim 21, wherein the at least one emulator is arranged to convert output signals from the programmable video generator and analyzer which are in a form unprocessable by the video display being tested into a form processable by the video display being tested.

26. (Previously Presented) The analyzer of claim 1, wherein said at least one emulator is arranged to convert input signals from the at least one video device being tested which are in a form unprocessable by said video generator and analyzer into a form processable by said video generator and analyzer.

27. (Previously Presented) The analyzer of claim 1, wherein said at least one emulator is arranged to convert output signals from said video generator and analyzer which are in a form unprocessable by the at least one video device being tested into a form processable by the at least one video device being tested.

28. (Currently Amended) A portable analyzer for testing video devices, comprising:  
a portable chassis;

a programmable video generator and analyzer housed in said chassis and adapted to be connected to at least one video device being tested, said video generator and analyzer including generating means for generating various forms of video test signals;

a signal conditioner/switching device housed in said chassis and adapted to be connected to the at least one video device being tested;

a command module housed in said chassis; and

a portable computer including a monitor, said computer being arranged to communicate with said video generator and analyzer and said signal conditioner/switching device via said command module in order to conduct test operations and enable display of test results on said monitor,

said signal conditioner/switching device including a digital multi-meter emulator which imitates the function of a digital multi-meter, a counter/timer emulator which imitates the function of a counter/timer and a digitizer/oscilloscope emulator which imitates the function of a digitizer/oscilloscope.